

**WHAT IS CLAIMED IS:**

1. (Currently amended) An opto-electrical device comprising:  
an anode electrode;  
a transparent cathode electrode; and  
an opto-electrically active region located between the electrodes;  
the cathode electrode including a first layer comprising a compound of a group 1 metal[[,]] or a group 2 metal, ~~or a transition metal~~; a second layer comprising a material having a work function below 3.5 eV; and a third layer spaced from the opto-electrically active region by the first and second layers and having a work function above 3.5eV, wherein the first layer is spaced from the opto-electrically active region by the second layer.
2. (Canceled)
3. (Original) An opto-electrical device as claimed in claim 1, wherein the compound is a compound of a group 1 metal.
4. (Original) An opto-electrical device as claimed in claim 1, wherein the compound is a compound of lithium.
5. (Original) An opto-electrical device as claimed in claim 1, wherein the compound is a halide.
6. (Original) An opto-electrical device as claimed in claim 1, wherein the compound is a fluoride.

Claims 7 and 8 (Canceled)

9. (Previously presented) An opto-electrical device as claimed in claim 1, wherein the second layer is adjacent the opto-electrically active layer.
10. (Currently amended) An opto-electrical device as claimed in claim 1, wherein the second layer comprises a metal selected from the group consisting of Li, Ba, Mg, Ca, Ce, Cs, Eu, Rb, K, Y, Sm, Na, ~~Sm~~, Sr, Tb, Yb, and alloys of two or more of those metals.
11. (Original) An opto-electrical device as claimed in claim 1, wherein the second layer is thicker than the first layer.
12. (Original) An opto-electrical device as claimed in claim 1, wherein the thickness of the first layer is between 10 Å and 150 Å.
13. (Original) An opto-electrical device as claimed in claim 1, wherein the compound has a work function below 3.5 eV and has a higher work function than the material having a work function below 3.5 eV of which the second layer is comprised.
14. (Original) An opto-electrical device as claimed in claim 1, wherein the thickness of the third layer is greater than 1000 Å.
15. (Original) An opto-electrical device as claimed in claim 1, wherein the material having a work function above 3.5 eV has an electrical conductivity greater than  $10^5 (\Omega \cdot \text{cm})^{-1}$ .
16. (Original) An opto-electrical device as claimed in claim 1, wherein the material having a work function above 3.5 eV is selected from the group consisting of aluminum, gold, and indium-tin oxide.

17. (Original) An opto-electrical device as claimed in claim 1, wherein the opto-electrically active region is light-emissive.

18. (Original) An opto-electrical device as claimed in claim 1, wherein the opto-electrically active region comprises a light-emissive organic material.

19. (Original) An opto-electrical device as claimed in claim 18, wherein the light-emissive organic material is a polymer material.

20. (Original) An opto-electrical device as claimed in claim 18, wherein the light-emissive organic material is a conjugated polymer material.

21. (Original) An opto-electrical device as claimed in claim 18, further comprising a charge transport layer between the light-emissive organic material and one of the electrodes.

22. (Previously presented) An opto-electrical device comprising:  
an anode electrode;  
a cathode electrode; and  
an opto-electrically active region located between the electrodes;  
the cathode electrode including a first layer comprising an organic complex of a group 1 metal, a group 2 metal, or a transition metal; a second layer comprising a material having a work function below 3.5 eV; and a third layer spaced from the opto-electrically active region by the first and second layers and having a work function above 3.5eV, wherein the first layer is spaced from the opto-electrically active region by the second layer.

23. (Original) An opto-electrical device as claimed in claim 22, wherein the organic complex is an organic complex of a group 1 metal or a group 2 metal.

24. (Original) An opto-electrical device as claimed in claim 22, wherein the organic complex is an organic complex of a group 2 metal.

25. (Original) An opto-electrical device as claimed in claim 22, wherein the organic complex is an organic complex of calcium.

Claims 26 and 27 (Canceled)

28. (Previously presented) An opto-electrical device as claimed in claim 22, wherein the second layer is adjacent the opto-electrically active layer.

29. (Currently amended) An opto-electrical device as claimed in claim 22, wherein the second layer comprises a metal selected from the group consisting of Li, Ba, Mg, Ca, Ce, Cs, Eu, Rb, K, Y, Sm, Na, ~~Sm~~, Sr, Tb, Yb, and alloys of two or more of those metals.

30. (Original) An opto-electrical device as claimed in claim 22, wherein the second layer is thicker than the first layer.

31. (Original) An opto-electrical device as claimed in claim 22, wherein the thickness of the first layer is between 10 Å and 150 Å.

32. (Original) An opto-electrical device as claimed in claim 22, wherein the organic complex has a work function below 3.5 eV and has a higher work function than the material having a work function below 3.5 eV of which the second layer is comprised.

33. (Original) An opto-electrical device as claimed in claim 22, wherein the thickness of the third layer is greater than 1000 Å.

34. (Original) An opto-electrical device as claimed in claim 22, wherein the material having a work function above 3.5 eV has an electrical conductivity greater than  $10^5 (\Omega \cdot \text{cm})^{-1}$ .

35. (Original) An opto-electrical device as claimed in claim 22, wherein the material having a work function above 3.5 eV is selected from the group consisting of aluminum, gold, and indium-tin oxide.

36. (Original) An opto-electrical device as claimed in claim 22, wherein the cathode is transparent.

37. (Original) An opto-electrical device as claimed in claim 22, wherein the opto-electrically active region is light-emissive.

38. (Original) An opto-electrical device as claimed in claim 22, wherein the opto-electrically active region comprises a light-emissive organic material.

39. (Original) An opto-electrical device as claimed in claim 38, wherein the light-emissive organic material is a polymer material.

40. (Original) An opto-electrical device as claimed in claim 38, wherein the light-emissive organic material is a conjugated polymer material.

41. (Original) An opto-electrical device as claimed in claim 38, further comprising a charge transport layer between the light-emissive organic material and one of the electrodes.

42. (Currently amended) An opto-electrical device comprising:  
an anode electrode;  
a cathode electrode; and  
an opto-electrically active region capable of generating an electrical field in response to light located between the electrodes;  
the cathode electrode including a first layer comprising a compound of a group 1 metal[[,]] or a group 2 metal, ~~or a transition metal~~; a second layer comprising a material having a work function below 3.5 eV; and a third layer spaced from the opto-electrically active region by the first and second layers and having a work function above 3.5eV, wherein the first layer is spaced from the opto-electrically active region by the second layer.

43. (Canceled)

44. (Original) An opto-electrical device as claimed in claim 43, wherein the compound is a compound of a group 1 metal.

45. (Original) An opto-electrical device as claimed in claim 43, wherein the compound is a compound of lithium.

46. (Original) An opto-electrical device as claimed in claim 43, wherein the compound is a halide.

47. (Original) An opto-electrical device as claimed in claim 43, wherein the compound is a fluoride.

Claims 48 and 49 (Canceled)

50. (Previously presented) An opto-electrical device as claimed in claim 43, wherein the second layer is adjacent the opto-electrically active layer.

51. (Currently amended) An opto-electrical device as claimed in claim 43, wherein the second layer comprises a metal selected from the group consisting of Li, Ba, Mg, Ca, Ce, Cs, Eu, Rb, K, Y, Sm, Na, ~~Sm~~, Sr, Tb, Yb, and alloys of two or more of those metals.

52. (Original) An opto-electrical device as claimed in claim 43, wherein the second layer is thicker than the first layer.

53. (Original) An opto-electrical device as claimed in claim 43, wherein the thickness of the first layer is between 10 Å and 150 Å.

54. (Original) An opto-electrical device as claimed in claim 43, wherein the compound has a work function below 3.5 eV and has a higher work function than the material having a work function below 3.5 eV of which the second layer is comprised.

55. (Original) An opto-electrical device as claimed in claim 43, wherein the thickness of the third layer is greater than 1000 Å.

56. (Original) An opto-electrical device as claimed in claim 43, wherein the material having a work function above 3.5 eV has an electrical conductivity greater than  $10^5 (\Omega \cdot \text{cm})^{-1}$ .

57. (Original) An opto-electrical device as claimed in claim 43, wherein the material having a work function above 3.5 eV is selected from the group consisting of aluminum, gold, and indium-tin oxide.

58. (Original) An opto-electrical device as claimed in claim 43, wherein the cathode is transparent.

59. (Original) An opto-electrical device as claimed in claim 43, wherein the opto-electrically active region comprises a polymer material.

60. (Original) An opto-electrical device as claimed in claim 43, wherein the opto-electrically active region comprises a conjugated polymer material.

61. (Original) An opto-electrical device as claimed in claim 43, further comprising a charge transport layer between the opto-electrically active region and one of the electrodes.

62. (Previously presented) An opto-electrical device comprising:

an anode electrode;

a transparent cathode electrode; and,

an opto-electrically active region located between the electrodes;

the cathode electrode including a first layer comprising a compound of a group 1 metal, a group 2 metal, or a transition metal; a second layer comprising a material having a work function below 3.5 eV; and a third layer spaced from the opto-electrically active region by the first and second layers and having a work function above 3.5 eV, wherein the compound is a metal halide or a metal oxide.

63. (Previously presented) An opto-electrical device as claimed in claim 62, wherein the compound is a compound of lithium.



64. (Previously presented) An opto-electrical device as claimed in claim 62, wherein the compound is a fluoride.

65. (Previously presented) An opto-electrical device comprising:  
an anode electrode;  
a cathode electrode; and,  
an opto-electrically active region capable of generating an electrical field in response to light located between the electrodes;  
the cathode electrode including a first layer comprising a compound of a group 1 metal, a group 2 metal, or a transition metal; a second layer comprising a material having a work function below 3.5 eV; and a third layer spaced from the opto-electrically active region by the first and second layers and having a work function above 3.5 eV, wherein the compound is a metal halide or a metal oxide.

66. (Previously presented) An opto-electrical device as claimed in claim 65, wherein the compound is a compound of lithium.

67. (Previously presented) An opto-electrical device as claimed in claim 65, wherein the compound is a fluoride.